

Mortality

An Overview: 2006

Total South Dakota Resident Deaths	7,038
Crude Death Rates per 100,000 Population	
South Dakota	932.4
United States (Provisional)	810.0
Age-Adjusted Death Rates per 100,000 Population	
South Dakota	807.5
United States	**N/A
Age-Adjusted YPLL Before Age 75 per 100,000 Population	
Whites	6,012
American Indians	21,778

In 2004, the South Dakota Department of Health implemented the new standard death certificate. Multiple races could be indicated on the certificate for the first time. Please see page 225 in the Technical Notes for a more in depth explanation.

In 1999, South Dakota along with the rest of the nation made two significant changes to the way mortality data were analyzed. These changes were the switch to using the 2000 U.S. Standard for age adjusting and using ICD-10 for disease classifications. As a result, comparison to reports prior to 1999 is not possible.

Table 48, below, displays the deaths, crude death rates, and age-adjusted death rates for the United States and South Dakota for the past 20 years.

Table 48
Resident Deaths, Crude Death Rates, and Age-Adjusted Death Rates,
South Dakota and United States, 1987-2006

Year	United States			South Dakota		
	Number	Crude Rate	Age-Adjusted Rate	Number	Crude Rate	Age-Adjusted Rate
2006	*2,416,000	*810.0	**N/A	7,038	932.4	807.5
2005	*2,432,000	*820.0	**N/A	7,074	937.1	816.2
2004	2,397,615	816.5	800.8	6,811	902.3	783.6
2003	2,448,288	841.9	832.7	7,109	941.8	819.2
2002	2,443,387	847.3	845.3	6,886	912.2	791.0
2001	2,416,425	848.5	854.5	6,915	916.1	796.3
2000	2,403,351	854.0	869.0	7,014	929.2	804.8
1999	2,391,399	857.0	875.6	6,941	997.3	799.1
1998	2,337,256	847.3	870.6	6,850	984.2	791.1
1997	2,314,245	848.8	878.1	6,855	984.9	790.2
1996	2,314,690	859.2	894.1	6,793	976.0	788.1
1995	2,312,132	868.3	909.8	6,901	991.5	798.0
1994	2,278,994	866.1	913.5	6,724	966.1	778.5
1993	2,268,000	872.8	926.1	6,774	973.3	787.1
1992	2,175,613	848.1	905.6	6,680	959.8	777.6
1991	2,169,518	857.6	922.3	6,636	953.4	768.9
1990	2,148,463	863.8	938.7	6,320	908.0	735.1
1989	2,150,466	871.3	950.5	6,534	916.3	760.5
1988	2,167,999	886.7	975.7	6,567	926.1	764.6
1987	2,123,323	876.4	970.0	6,658	940.4	778.2

Note: *U.S. 2006 and 2005 data are provisional.

**U.S. data not available.

Crude death rates are per 100,000 population.

Age-adjusted rates are computed with the 2000 standard.

Source: National Center of Health Statistics

South Dakota Department of Health, Office of Data, Statistics, and Vital Records

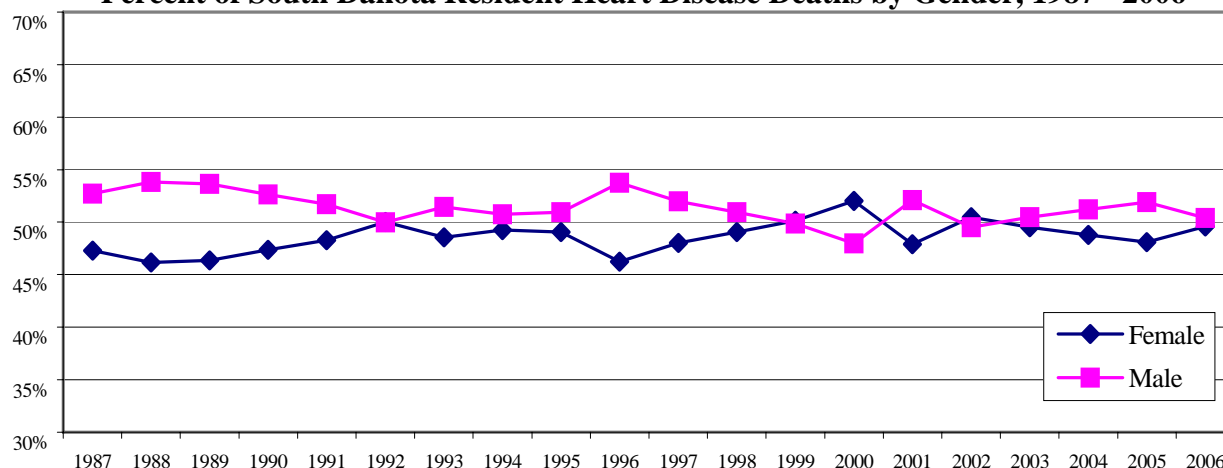
Leading Causes of Death

The five leading causes of death in 2006 for South Dakota residents were heart disease, cancer, accidents, cerebrovascular diseases, and chronic lower respiratory diseases.

Heart disease accounted for 24.8 percent of South Dakota's 2006 resident deaths a decrease of 0.4 percent from 2005. Heart disease was the leading cause of death for South Dakota residents for men and women as well as whites. Figure 11, below, illustrates by gender the percent of South Dakota resident heart disease deaths for the last 20 years. Over the past 20 years, the percent of deaths due to

heart disease for males usually fell between 50 to 55 percent while for the females the percent of deaths due to heart disease usually fell between 45 to 50 percent. The majority of years showed males having a higher percent of deaths due to heart disease than females. However, this was not the case in 1999, 2000, and 2002 when females had a higher percent of death due to heart disease than males. In 2006, males showed a slight decrease from 2005 in the percent of deaths due to heart disease while females showed a slight increase from 2005 in the percent of deaths due to heart disease.

Figure 11
Percent of South Dakota Resident Heart Disease Deaths by Gender, 1987 - 2006



Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Cancer was the second leading cause of death and accounted for 22.2 percent of 2006 South Dakota resident deaths, a decrease of 2.6 percent from 2005. Trachea, bronchus, and lung cancer were the leading cause of cancer deaths during the year, accounting for 27.9 percent of cancer deaths.

Accidents caused 6.3 percent of all South Dakota resident deaths in 2006, an increase of 12.5 percent from 2005. The two most common types of accidental deaths during the year were motor vehicle accidents, causing 42.0 percent, and falls, accounting for 31.8 percent of accidents.

Cerebrovascular diseases accounted for 6.2 percent of 2006 South Dakota resident deaths, a decrease of 13.9 percent from 2005. Stroke, not specified as hemorrhage or infarction, caused the majority of the deaths for this type of disease.

Chronic lower respiratory disease accounted for 5.3 percent of 2006 South Dakota resident deaths, a decrease of 14.5 percent from 2005. Chronic lower respiratory diseases include emphysema, asthma, and bronchitis.

Table 49, below, displays the breakdown of accidental deaths for the last five years. In 2006, there were 443 accidental deaths. There are two main types of accidental death, motor vehicle or other causes of accidental death.

The highest motor vehicle death in 2006 was car occupant with 99 deaths. The highest death in the other causes of accidental death in 2006 was falls with 141 deaths.

Table 49
South Dakota Resident Leading Causes of Death Due to Accidents, 2002-2006

	Total	Year of Death				
		2006	2005	2004	2003	2002
Total Deaths	1,980	443	396	407	390	344
Motor Vehicle Accidents	952	186	181	185	215	185
Car Occupant.....(V40-V49)	521	99	93	111	112	106
Occupant of Pick-Up Truck or Van.....(V50-V59)	186	39	33	33	44	37
Pedestrian.....(V01-V09)	70	12	20	13	14	11
Motorcycle Rider.....(V20-V29)	61	12	11	12	14	12
Occupant of Special All-Terrain Vehicle.....(V86)	35	4	5	6	11	9
Occupant of Heavy Transport Vehicle.....(V60-V69)	19	6	3	2	6	2
All Other Motor Vehicle Accidents	60	14	16	8	14	8
Other Causes of Accidental Death	1,028	257	215	222	175	159
Falls.....(W00-W19)	529	141	116	114	84	74
Accidental Poisoning(X40-X49)	111	29	21	31	13	17
Accidental Threats to Breathing (excl. drowning).....(W75-W84)	69	19	13	13	14	10
Exposure to Smoke, Fire, and Flames.....(X00-X09)	63	12	16	14	10	11
Accidental Drowning and Submersion.....(W65-W74, V90, V92)	48	12	10	8	11	7
Exposure to Excessive Natural Cold.....(X31)	28	6	9	5	4	4
Air Transport Accidents...(V95.0-V95.3, V95.8-V95.9, & V96-V97)	18	1	2	3	2	10
Accidental Discharge of Firearms.....(W32-W34)	21	2	3	4	7	5
Contact with Agricultural Machinery.....(W30)	12	3	1	1	3	4
All Other Causes of Accidents	129	32	24	29	27	17

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 50, on the next page, lists South Dakota resident leading causes of death for the last five years. Heart disease, cancer, and cerebrovascular diseases had been the first, second, and third cause of death for the past five years. In 2006, accidents surpassed cerebrovascular disease for the number three spot; it was previously fourth or fifth in the past years. Chronic lower respiratory diseases has been fourth or fifth for the past five years. Influenza and pneumonia, diabetes mellitus, and Alzheimer's disease have been sixth, seventh, or eighth for the past five

years. For the past three years, unspecified dementia was not included in the leading causes of death. In the past it had ranked ninth. Likewise, nephritis, nephrotic syndrome, and nephrosis were not in the leading causes of death in 2006, 2005, or 2004. However, nephritis, nephrotic syndrome, and nephrosis had ranked tenth in 2003 and 2002. The ninth leading cause of death in 2006, 2005, and 2004 was intentional self-harm (suicide). The tenth leading cause of death in 2006, 2005, and 2004 was chronic liver disease and cirrhosis.

Table 50
South Dakota Resident Leading Causes of
Death, 2002-2006

Cause of Death	Total			2006			2005			2004			2003			2002		
	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent
South Dakota (All Deaths)		34,918	100.0		7,038	100.0		7,074	100.0		6,811	100.0		7,109	100.0		6,886	100.0
Heart Disease(I00-I09, I11, I13, I20-I51)	1	9,157	26.2	1	1,743	24.8	1	1,764	24.9	1	1,775	26.1	1	1,942	27.3	1	1,933	28.1
Malignant Neoplasms (cancer).....(C00-C97)	2	7,936	22.7	2	1,561	22.2	2	1,610	22.8	2	1,559	22.9	2	1,645	23.1	2	1,561	22.7
Cerebrovascular Diseases(I60-I69)	3	2,404	6.9	4	437	6.2	3	511	7.2	3	463	6.8	3	475	6.7	3	518	7.5
Accidents(V01-X59, Y85-Y86)	4	1,980	5.7	3	443	6.3	5	396	5.6	4	407	6.0	4	390	5.5	5	344	5.0
Chronic Lower Respiratory Diseases.....(J40-J47)	5	1,969	5.6	5	375	5.3	4	440	6.2	5	393	5.8	5	379	5.3	4	382	5.5
Alzheimer's Disease(G30)	6	1,218	3.5	6	330	4.7	6	289	4.1	6	255	3.7	8	175	2.5	8	169	2.5
Diabetes Mellitus(E10-E14)	7	1,121	3.2	7	261	3.7	8	239	3.4	7	227	3.3	7	201	2.8	7	193	2.8
Influenza and Pneumonia(J10-J18)	8	1,057	3.0	8	173	2.5	7	242	3.4	8	180	2.6	6	223	3.1	6	239	3.5
Intentional Self-Harm (suicide)(*U03, X60-X84, Y87.0)	9	559	1.6	9	125	1.8	9	123	1.7	9	114	1.7	*	*	*	*	*	*
Unspecified Dementia(F03)	10	472	1.4	*	*	*	*	*	*	*	*	*	9	152	2.1	9	131	1.9
Nephritis, Nephrotic Syndrome, and Nephrosis(N00-N07, N17-N19, N25-N27)	*	*	*	*	*	*	*	*	*	*	*	*	10	131	1.8	10	128	1.9
Chronic Liver Disease and Cirrhosis.....(K70 & K73-K74)	*	*	*	10	83	1.2	10	83	1.2	10	97	1.4	*	*	*	*	*	*
Essential (primary) Hypertension and Hypertensive Renal Disease(I10 & I12)	*	*	*	*	*	*	10	83	1.2	*	*	*	*	*	*	*	*	*
All Other Causes		7,045	20.2		1,507	21.4		1,294	18.3		1,341	19.7		1,396	19.6		1,288	18.7

Note: Letter/number combinations following cause of death are ICD-10 codes.

Due to rounding disease-specific death rates may not sum to state death rate.

*This cause was not one of the ten leading causes of death for that year.

The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Race

Table 51, below, presents South Dakota resident leading causes of death by race. In 2006, patterns for the 10 leading causes of death varied by race. Eight of the 10 leading causes were the same for whites and American Indians, but they differed by rank. For example, accidents were the fifth leading cause of death at 5.4 percent for the white population, but the first leading cause of death for the American Indian population at 17.1

percent. Alzheimer's disease, essential (primary) hypertension and hypertensive renal disease, unspecified dementia, and Parkinson's disease were in the 10 leading causes of death for the white population, but not the American Indian population. Among the 10 leading causes of death for the American Indian population, but not for the white population were chronic liver disease and cirrhosis, assault (homicide), and septicemia.

Table 51
South Dakota Resident Leading Causes of Death by Race, 2006

Cause of Death	All Races			White			American Indian		
	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent
South Dakota (All Deaths)		7,038	100.0		6,475	100.0		516	100.0
Heart Disease.....(I00-I09, I11, I13, I20-I51)	1	1,743	24.8	1	1,652	25.5	2	78	15.1
Malignant Neoplasms (cancer)....(C00-C97)	2	1,561	22.2	2	1,477	22.8	3	76	14.7
Accidents..... (V01-X59, Y85-Y86)	3	443	6.3	5	348	5.4	1	88	17.1
Cerebrovascular Diseases.....(I60-I69)	4	437	6.2	3	417	6.4	7	19	3.7
Chronic Lower Respiratory Diseases(J40-J47)	5	375	5.3	4	361	5.6	8	14	2.7
Alzheimer's Disease.....(G30)	6	330	4.7	6	329	5.1	*	*	*
Diabetes Mellitus.....(E10-E14)	7	261	3.7	7	223	3.4	5	36	7.0
Influenza and Pneumonia.....(J10-J18)	8	173	2.5	8	162	2.5	10	10	1.9
Intentional Self-Harm (suicide)(*U03, X60-X84, Y87.0)	9	125	1.8	9	103	1.6	6	21	4.1
Chronic Liver Disease and Cirrhosis(K70 & K73-K74)	10	83	1.2	*	*	*	4	38	7.4
Essential (primary) Hypertension and Hypertensive Renal Disease.....(I10 & I12)	*	*	*	10	74	1.1	*	*	*
Unspecified Dementia.....(F03)	*	*	*	10	74	1.1	*	*	*
Parkinson's Disease.....(G20-G21)	*	*	*	10	74	1.1	*	*	*
Assault (homicide)(*U01-*U02, X85-Y09, Y87.1)	*	*	*	*	*	*	9	13	2.5
Septicemia.....(A40-A41)	*	*	*	*	*	*	10	10	1.9
All Other Causes	-	1,507	21.4	-	1,181	18.2	-	113	21.9

Note: Letter / number combinations following cause of death are ICD-10 codes.

Due to rounding, disease-specific death rates may not sum to state death rate.

* This cause was not one of the ten leading causes of death for this race group.

The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Gender

In 2006, patterns for the 10 leading causes of death also varied by gender in South Dakota (Table 52, on the next page). Eight of the 10 leading causes were the same for South Dakota's men

and women, but they differed in rank. Intentional self-harm (suicide) and chronic liver disease and cirrhosis were among the 10 leading causes of death for South Dakota's men, but not for women.

Likewise, unspecified dementia, and essential (primary) hypertension and hypertensive renal disease were among the 10 leading causes of death for South Dakota's women, but not for South Dakota's men. Men were also more likely to die in accidents than women were, while women were more likely to

die from Alzheimer's disease than men. When ranked together, intentional self-harm (suicide) and chronic liver disease and cirrhosis were in the top 10 but when broken out by gender intentional self-harm (suicide) was ranked seventh for men and chronic liver disease and cirrhosis was ranked tenth for women.

Table 52
South Dakota Resident Leading Causes of Death
by Gender, 2006

Cause of Death	Total			Male			Female		
	Rank	Deaths	Percent	Rank	Deaths	Percent	Rank	Deaths	Percent
South Dakota (All Deaths)		7,038	100.0		3,530	100.0		3,508	100.0
Heart Disease.....(I00-I09, I11, I13, I20-I51)	1	1,743	24.8	1	878	24.9	1	865	24.7
Malignant Neoplasms (cancer)....(C00-C97)	2	1,561	22.2	2	860	24.4	2	701	20.0
Accidents..... (V01-X59, Y85-Y86)	3	443	6.3	3	277	7.8	6	166	4.7
Cerebrovascular Diseases.....(I60-I69)	4	437	6.2	5	181	5.1	3	256	7.3
Chronic Lower Respiratory Diseases(J40-J47)	5	375	5.3	4	205	5.8	5	170	4.8
Alzheimer's Disease.....(G30)	6	330	4.7	8	103	2.9	4	227	6.5
Diabetes Mellitus.....(E10-E14)	7	261	3.7	6	122	3.5	7	139	4.0
Influenza and Pneumonia.....(J10-J18)	8	173	2.5	9	74	2.1	8	99	2.8
Intentional Self-Harm (suicide)(*U03, X60-X84, Y87.0)	9	125	1.8	7	104	2.9	*	*	*
Chronic Liver Disease and Cirrhosis(K70 & K73-K74)	10	83	1.2	10	51	1.4	*	*	*
Unspecified Dementia.....(F03)	*	*	*	*	*	*	9	51	1.5
Essential (primary) hypertension and hypertensive renal disease.....(I10 & I12)	*	*	*	*	*	*	10	47	1.3
All Other Causes	-	1,507	21.4	-	675	19.1	-	787	22.4

Note: Letter / number combinations following cause of death are ICD-10 codes.

Due to rounding, disease-specific death rates may not sum to state death rate.

* This cause was not one of the ten leading causes of death for this gender.

The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Age

Table 53, on the next page, lists the five leading causes of death by age group. Excluding infants, accidents were the leading cause of death to age 44. The

leading cause of death for the 45 to 54, and 55 to 64 age group was cancer. Heart disease was the leading cause of death for the 65 and over age group.

Table 53
South Dakota Resident Five Leading Causes of Death by Age Group, 2006

Rank	All Ages	Under 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65 & Over
1	Heart Disease 1,743	Congenital Malformations 28	Accidents 5	Accidents 8	Accidents 61	Accidents 49	Accidents 42	Malignant Neoplasms (cancer) 105	Malignant Neoplasms (cancer) 230	Heart Disease 1,466
2	Malignant Neoplasms (cancer) 1,561	Sudden Infant Death Syndrome 12	**	Malignant Neoplasms (cancer) 4	Intentional Self-Harm (suicide) 30	Intentional Self-Harm (suicide) 14	Heart Disease 28	Heart Disease 87	Heart Disease 150	Malignant Neoplasms (cancer) 1,186
3	Accidents 443	Accidents 7	**	Intentional Self-Harm (suicide) 3	Heart Disease 3	Malignant Neoplasms (cancer) 8	Malignant Neoplasms (cancer) 24	Accidents 56	Accidents 42	Cerebrovascular Diseases 405
4	Cerebrovascular Diseases 437	Maternal Complications of Pregnancy 6	**	***	Malignant Neoplasms (cancer) 3	Heart Disease 7	Intentional Self-Harm (suicide) 23	Intentional Self-Harm (suicide) 31	Chronic Lower Respiratory Diseases 33	Chronic Lower Respiratory Diseases 334
5	Chronic Lower Respiratory Disease 375	Short Gestation and Low Birth Weight 5	**	***	****	Assault (homicide) 5	Chronic Liver Disease and Cirrhosis 11	Chronic Liver Disease and Cirrhosis 25	Diabetes Mellitus 29	Alzheimer's Disease 328

Note: **The following causes each had 1 death; malignant neoplasms (cancer), septicemia, congenital malformations, assault (homicide), noninfective enteritis, other ill-defined and unknown causes of mortality, events of undetermined intent, and meningococcal infection.

***The following causes each had 1 death; heart disease, septicemia, other diseases of the respiratory system, mental retardation.

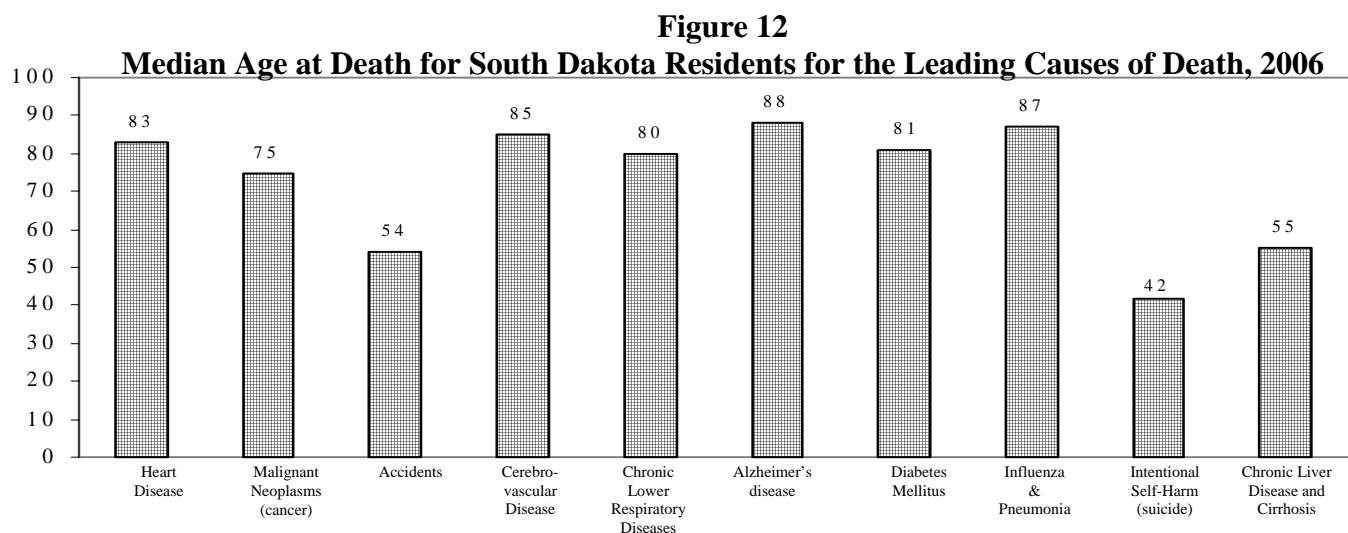
****The following causes tied for fifth place with 2 deaths; metabolic disorders and assault (homicide).

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Median Age

Figure 12, below, presents data on the median age at death for the 10 leading

causes of death for South Dakota residents in 2006.



Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 54, below, shows the median age at death for South Dakota residents from the leading causes of death by race and gender. In 2006, the median age at death was 80 for all South Dakotans; for white residents the median age was 81, compared to 56 for American Indians. The overall median age at death stayed

the same for whites and decreased by two for American Indians when compared to their overall median age at death in 2005. The median age at death in 2006 for South Dakota resident males and females was 77 and 84, respectively. An increase of one for both when compared to 2005.

Table 54
Median Age at Death for South Dakota Residents for the Leading Causes of Death by Race and Gender, 2006

Cause of Death	Median Age at Death in Years				
	All	Race		Gender	
	Total Deaths	White	American Indian	Male	Female
South Dakota (All Deaths)	80	81	56	77	84
Heart Disease (I00-I09, I11, I13, I20-I51)	83	84	65	79	87
Malignant Neoplasms (cancer) (C00-C97)	75	76	70	75	76
Accidents (V01-X59, Y85-Y86)	54	63	33	49	66
Cerebrovascular Diseases (I60-I69)	85	86	70	83	87
Chronic Lower Respiratory Diseases (J40-J47)	80	80	70	80	80
Alzheimer's Disease (G30)	88	88	*	87	89
Diabetes Mellitus (E10-E14)	81	82	69	77	82
Influenza and Pneumonia (J10-J18)	87	87	72	86	89
Intentional Self-Harm (suicide) (*U03, X60-X84, Y87.0)	42	45	21	42	*
Chronic Liver Disease and Cirrhosis (K70 & K73-K74)	55	*	48	56	*
Unspecified Dementia (F03)	*	89	*	*	91
Parkinson's Disease	*	83	*	*	*
Essential (primary) Hypertension and Hypertensive Renal Disease (I10 & I12)	*	89	*	*	91
Assault (homicide) (*U01-*U02, X85-Y09, Y87.1)	*	*	32	*	*
Septicemia (A40-A41)	*	*	62	*	*
All Other Causes	81	81	54	78	82

Note: Letter / number combinations following cause of death are ICD-10 codes.

*This cause was not one of the ten leading causes of death for this race or gender.

The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.

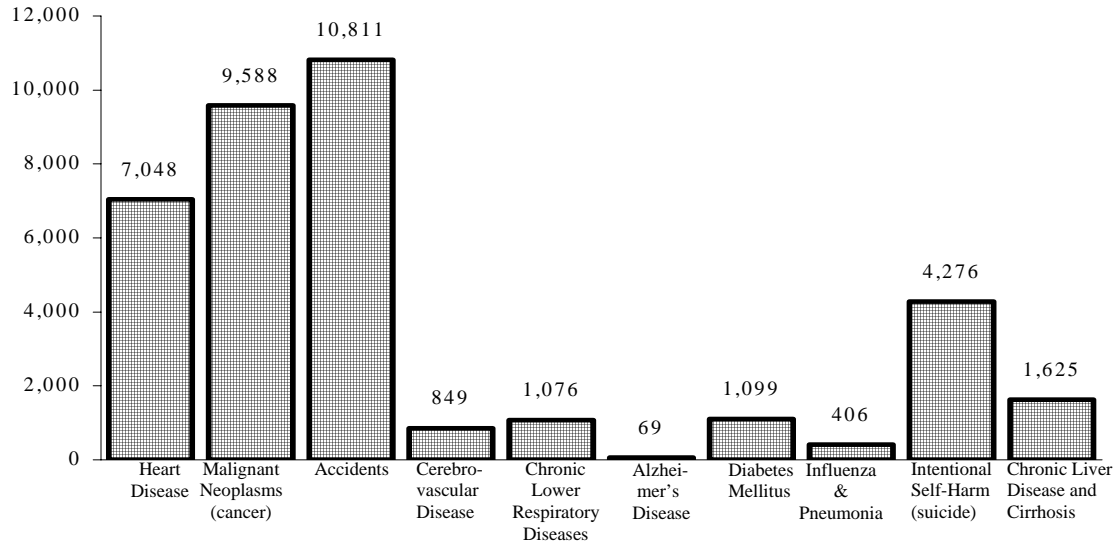
Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Years of Potential Life Lost

Figure 13, on the next page, depicts the years of potential life lost (YPLL) before age 75 for each of these causes. Please refer to page 231 of the technical notes section for an explanation of how

YPLL before age 75 is calculated. Accidents led in YPLL (10,811 years) because many of the decedents were at a relatively young age at the time of death.

Figure 13
South Dakota Resident Years of Potential Life Lost (YPLL)
Before Age 75 for the Leading Causes of Death, 2006



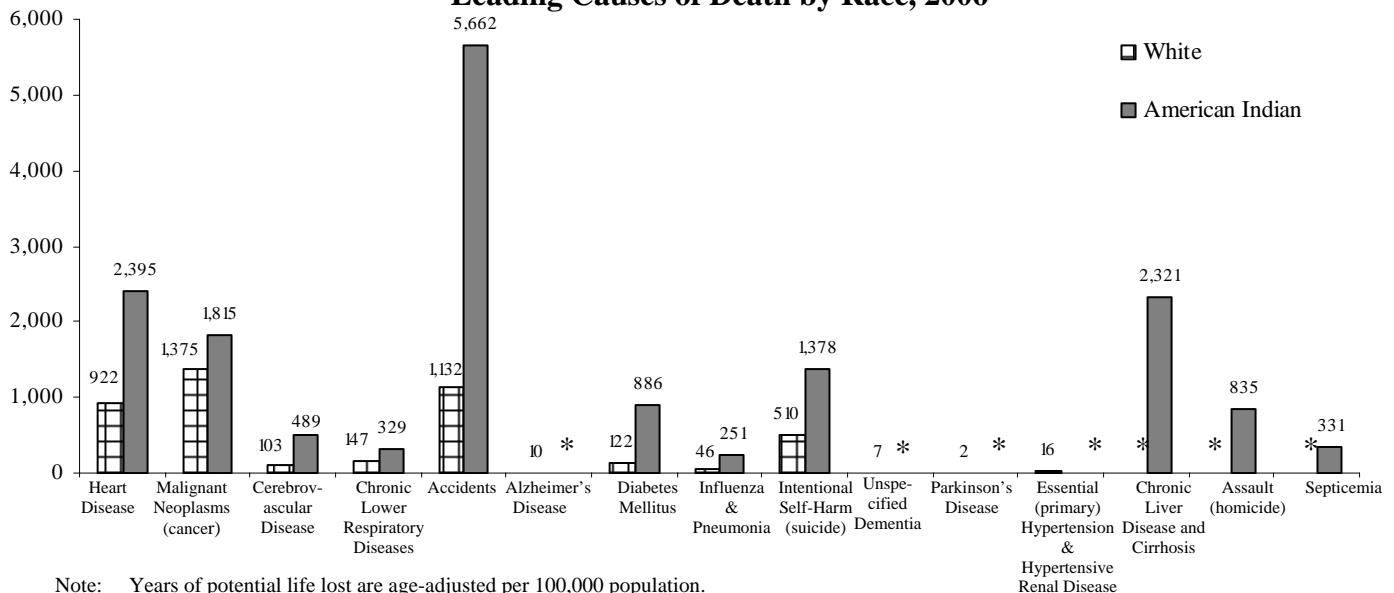
Note: The data above is not comparable to the age-adjusted data in Figure 14 below.
Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Figure 14, below, illustrates the years of potential life lost (YPLL) before the age 75 per 100,000 population for the top 10 causes of death by race. When comparing YPLL by race, American Indians exceed whites substantially in YPLL for the leading causes of death.

American Indians' largest YPLL was accidents with 5,662 years while whites' largest YPLL was cancer with

1,375 years. Whites' second largest YPLL was accidents with 1,132 years while American Indians' second largest YPLL was heart disease with 2,395 years. Whites' third largest YPLL was heart disease with 922 years. Chronic liver disease and cirrhosis was the third largest YPLL for American Indians with 2,321 years, which still exceeded whites' largest YPLL (cancer).

Figure 14
Age-Adjusted Years of Potential Life Lost (YPLL) Before Age 75 for the
Leading Causes of Death by Race, 2006



Note: Years of potential life lost are age-adjusted per 100,000 population.
*This cause was not one of the ten leading causes of death for this race group.
Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Place of Death

Table 55, below, displays the 10 leading causes of death by place where death occurred in 2006. Overall, nursing home, long term

care, and hospice facility had the highest occurrence of deaths with 39.1 percent. Hospital followed closely with 38.3 percent.

Table 55
South Dakota Resident Deaths by Cause of Death and Place of Death, 2006

Cause of Death	Total		Hospital		Nursing Home/Long Term Care/Hospice Facility		Residence		All Other Reported Entries	
	Num	%	Num	%	Num	%	Num	%	Num	%
South Dakota (All Deaths)	7,038	100.0	2,694	38.3	2,751	39.1	1,284	18.2	306	4.3
Heart Disease.....(I00-I09, I11, I13, I20-I51)	1,743	100.0	637	36.5	645	37.0	422	24.2	39	2.2
Malignant Neoplasms (cancer).....(C00-C97)	1,561	100.0	571	36.6	539	34.5	417	26.7	33	2.1
Accidents.....(V01-X59, Y85-Y86)	443	100.0	179	40.4	57	12.9	48	10.8	159	35.9
Cerebrovascular Diseases.....(I60-I69)	437	100.0	195	44.6	218	49.9	22	5.0	2	0.5
Chronic Lower Respiratory Diseases.....(J40-J47)	375	100.0	162	43.2	152	40.5	53	14.1	8	2.1
Alzheimer's Disease.....(G30)	330	100.0	18	5.5	296	89.7	13	3.9	3	0.9
Diabetes Mellitus.....(E10-E14)	261	100.0	89	34.1	128	49.0	39	14.9	4	1.5
Influenza and Pneumonia(J10-J18)	173	100.0	74	42.8	88	50.9	10	5.8	1	0.6
Intentional Self-Harm (suicide)(*U03, X60-X84, Y87.0)	125	100.0	15	12.0	0	0.0	78	62.4	32	25.6
Chronic Liver Disease and Cirrhosis(K70 & K73-K74)	83	100.0	51	61.4	19	22.9	13	15.7	0	0.0
All Other Causes	1,507	100.0	703	46.6	609	40.4	169	11.2	25	1.7

Note: The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.
Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records.

Tobacco Use

Tobacco use may contribute to deaths due to a wide variety of diseases. For example, tobacco use contributes to many deaths due to emphysema or lung cancer and heart disease and cancers of the head and neck. For a complete list of diseases known to be caused by tobacco use, please refer to The Health Consequences of Smoking a Report of the Surgeon General 2004. The report is online at www.surgeongeneral.gov/library/smokingconsequences/. The certifier was instructed to check “yes” or “probably” if in their opinion, the use of tobacco contributed to death or

check “no” if in their clinical judgment tobacco use did not contribute to the death. There was also the option of “unknown” if the certifier was unsure if tobacco use contributed to death. On 1,152 deaths or 16.4 percent, the certifier indicated “yes” or “probably” that tobacco use contributed to the death. Conversely, on 4,137 deaths, or 58.8 percent, the certifier indicated that tobacco use did not contribute to the death.

In the remaining 1,749 deaths, or 24.9 percent, the certifier was unsure if tobacco use contributed to the death.

Table 56, below, displays the 10 leading causes of death where the certifier said “yes” or “probably” that tobacco use contributed to the death. Tobacco use contributed to death in 69.7 percent, or 23 out of the 33 emphysema deaths in 2006. In 70.3 percent, or 306 trachea, bronchus, and

lung cancer deaths the certifier said “yes” or “probably” that tobacco use contributed to the death. Of the 375 chronic lower respiratory disease deaths in 2006, certifiers said tobacco use contributed to 259 deaths, or 69.1 percent.

Table 56
South Dakota Resident Leading Causes of Death as They Relate to Tobacco Use, 2006
(Did Tobacco Use Contribute to Death)

Cause of Death	Yes/Probably		Total Deaths	
	Number	Percent	Number	Percent
Total	1,152	16.4	7,038	100.0
Malignant Neoplasms (cancer).....(C00-C97)	420	26.9	1,561	100.0
Trachea, Bronchus, and Lung.....(C33-C34)	306	70.3	435	100.0
Esophagus.....(C15)	19	43.2	44	100.0
Colon, Rectum, and Anus.....(C18-C21)	11	7.3	150	100.0
Lip, Oral Cavity, and Pharynx.....(C00-C14)	8	40.0	20	100.0
Chronic Lower Respiratory Diseases.....(J40-J47)	259	69.1	375	100.0
Emphysema.....(J43)	23	69.7	33	100.0
Heart Disease.....(I00-I09, I11, I13, I20-I51)	234	13.4	1,743	100.0
Acute Myocardial Infarction.....(I21-I22)	79	12.4	636	100.0
Atherosclerotic Cardiovascular Disease.....(I25.0)	16	17.4	92	100.0
Diabetes Mellitus.....(E10-E14)	31	11.9	261	100.0
Cerebrovascular Diseases.....(I60-I69)	27	6.2	437	100.0
Mental and Behavioral Disorders due to Psychoactive Substance Use.....(F10-F19)	16	55.2	29	100.0
Chronic Liver Disease and Cirrhosis....(K70 & K73-K74)	15	18.1	83	100.0
Alcoholic Liver Disease.....(K70)	12	18.8	64	100.0
Influenza and Pneumonia.....(J10-J18)	11	6.4	173	100.0
Pneumonia.....(J12-J18)	11	6.7	163	100.0
Aortic Aneurysm and Dissection.....(I71)	9	19.6	46	100.0
Alzheimer’s Disease.....(G30)	8	2.4	330	100.0
Nephritis, nephrotic syndrome, and nephrosis(N00-N07, N17-N19, N25-N27)	8	13.3	60	100.0
Renal Failure.....(N17-N19)	8	14.5	55	100.0
All Other Causes	114	6.0	1,885	100.0

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Method of Disposition

Table 57, on the next page, displays the different methods of disposition for the last 10 years. The top disposition in 2006 was burial with 5,127 deaths. The second highest method of disposition in 2006 was cremation with 1,440 deaths.

Since 1997, burial has been the highest method of disposition chosen and cremation has been the second highest method of disposition chosen.

Table 57
South Dakota Resident Deaths by Disposition, 1997-2006

Year	Type of Disposition						
	Total Deaths	Burial	Cremation	Removal from State	Donation	Entombment	Other
2006	7,038	5,127	1,440	431	30	6	0
2005	7,074	5,373	1,515	151	27	7	0
2004	6,811	5,305	1,348	120	22	12	0
2003	7,109	5,675	1,321	76	26	**	8
2002	6,886	5,627	1,148	72	24	**	11
2001	6,915	5,700	1,102	79	20	**	10
2000	7,014	5,859	1,038	86	20	**	8
1999	6,941	5,825	938	141	21	**	11
1998	6,850	5,808	829	175	25	**	5
1997	6,855	5,882	761	182	19	**	6

Note: Failure of deaths to add to total is due to not stated disposition.

** Prior to 2004 entombment was included in the other category.

Sharp increase in removal from state from 2005 to 2006 due to clarification of reporting process.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Education

The education of the deceased was collected on the death certificate for the first time in 2004. Table 58, below, displays the level of education by age group for residents ages 25 and above while Table 59, on the next page, displays level of education by leading causes of death for residents ages 25 and above. Table 58 has been included because the large differences in age distributions among the education groups could

have an effect on the leading causes of death shown in Table 59. For example, when looking at the 8th grade or less education level the leading cause of death is heart disease with 25.5 percent. However, when comparing some college, but no degree the leading cause of death is cancer with 26.6 percent. Part of the reason for the variation could be because of the differences of age distribution between education groups in Table 58.

Table 58
South Dakota Resident Deaths by Age and Education for Ages 25 and Above, 2006

Age	Total		8 th Grade or Less		Some High School		High School Graduate or GED		Some College, but No Degree		College Degree/Votech/Teacher's Certificate	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	6,814	100.0	1,574	100.0	630	100.0	2,572	100.0	796	100.0	1,222	100.0
25-34	104	1.5	3	0.2	9	1.4	52	2.0	21	2.6	16	1.3
35-44	184	2.7	8	0.5	19	3.0	88	3.4	32	4.0	36	2.9
45-54	411	6.0	19	1.2	33	5.2	191	7.4	61	7.7	102	8.3
55-64	667	9.8	65	4.1	54	8.6	293	11.4	97	12.2	158	12.9
65-74	966	14.2	184	11.7	89	14.1	414	16.1	118	14.8	157	12.8
75-84	1,877	27.5	420	26.7	194	30.8	739	28.7	225	28.3	296	24.2
85+	2,605	38.2	875	55.6	232	36.8	795	30.9	242	30.4	457	37.4

Note: Failure of deaths to add to total is due to not stated education.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Table 59
South Dakota Resident Leading Causes of Death for Ages 25 and Above by Education, 2006

Cause of Death	Total		8 th Grade or Less		Some High School		High School Graduate or GED		Some College, but No Degree		College Degree/Votech/Teacher's Certificate	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	6,814	100.0	1,574	100.0	630	100.0	2,572	100.0	796	100.0	1,222	100.0
Heart Disease (I00-I09, I11, I13, I20-I51)	1,738	25.5	474	30.1	157	24.9	616	24.0	194	24.4	296	24.2
Malignant Neoplasms (cancer)(C00-C97)	1,553	22.8	258	16.4	144	22.9	641	24.9	212	26.6	295	24.1
Cerebrovascular Diseases(I60-I69)	437	6.4	128	8.1	47	7.5	145	5.6	44	5.5	73	6.0
Chronic Lower Respiratory Diseases.....(J40-J47)	375	5.5	97	6.2	47	7.5	149	5.8	40	5.0	41	3.4
Accidents.....(V01-X59, Y85-Y86)	362	5.3	50	3.2	24	3.8	167	6.5	43	5.4	72	5.9
Alzheimer's Disease.....(G30)	330	4.8	82	5.2	21	3.3	110	4.3	36	4.5	80	6.5
Diabetes Mellitus.....(E10-E14)	261	3.8	66	4.2	37	5.9	107	4.2	18	2.3	33	2.7
Influenza & Pneumonia.....(J10-J18)	173	2.5	47	3.0	15	2.4	60	2.3	24	3.0	26	2.1
Intentional Self-Harm (suicide)(*U03, X60-X84, Y87.0)	92	1.4	9	0.6	7	1.1	42	1.6	12	1.5	21	1.7
Chronic Liver Disease and Cirrhosis.....(K70 & K73-K74)	83	1.2	5	0.3	11	1.7	33	1.3	13	1.6	19	1.6
All Other Causes	1,410	20.7	358	22.7	120	19.0	502	19.5	160	20.1	266	21.8

Note: Failure of deaths to add to total is due to not stated education.

The asterisks (*) preceding the cause-of-death codes indicate that they are not part of the International Classification of Diseases, Tenth Revision.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records

Leading Causes and Selected Components

Table 60, pages 64 to 66, displays South Dakota resident deaths, the crude death rate, and the age-adjusted death rate for 15 leading causes and selected components from 2002 to 2006.

The crude and age adjusted rate for all causes in 2006 were 932.4 and 807.5 respectively, which are down from the crude and age-adjusted rates in 2005 of 937.1 and 816.2, respectively.

Table 60
South Dakota Resident Deaths, Crude, and Age-Adjusted Death Rates for 15 Leading Causes and Selected Components, 2002-2006

Cause of Death	Number						Crude Death Rates						Age-Adjusted Death Rates					
	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002
All Causes	34,918	7,038	7,074	6,811	7,109	6,886	925.2	932.4	937.1	902.3	941.8	912.2	803.5	807.5	816.2	783.6	819.2	791.0
Heart Disease	9,157	1,743	1,764	1,775	1,942	1,933	242.6	230.9	233.7	235.1	257.3	256.1	204.4	194.6	196.9	197.3	217.3	216.0
Acute Myocardial Infarction	3,207	636	610	631	697	633	85.0	84.3	80.8	83.6	92.3	83.9	73.5	73.1	70.2	71.6	80.3	72.3
All Other Forms of Chronic Ischemic Heart Disease	3,117	650	666	614	594	593	82.6	86.1	88.2	81.3	78.7	78.6	68.9	72.0	73.5	67.9	65.6	65.5
Heart Failure	653	62	54	145	185	207	17.3	8.2	7.2	19.2	24.5	27.4	13.8	6.5	5.5	15.2	19.5	22.1
Atherosclerotic Cardiovascular Disease	540	92	117	92	119	120	14.3	12.2	15.5	12.2	15.8	15.9	11.4	9.7	12.5	9.6	12.5	12.5
Hypertensive Heart Disease	183	52	53	35	23	20	4.8	6.9	7.0	4.6	3.0	2.6	3.8	5.3	5.4	3.7	2.4	2.0
Acute Rheumatic Fever & Chronic Rheumatic Heart Diseases	66	18	8	16	13	11	1.7	2.4	1.1	2.1	1.7	1.5	1.5	2.1	0.8	1.9	1.5	1.3
Hypertensive Heart and Renal Disease	23	9	9	1	4	0	0.6	1.2	1.2	0.1	0.5	0.0	0.5	0.9	0.9	0.1	0.4	0.0
Acute and Subacute Endocarditis	17	2	4	2	3	6	0.5	0.3	0.5	0.3	0.4	0.8	0.4	0.3	0.4	0.3	0.3	0.7
Diseases of Pericardium and Acute Myocarditis	13	2	2	2	3	4	0.3	0.3	0.3	0.3	0.4	0.5	0.3	0.3	0.2	0.2	0.4	0.5
All Other Forms of Heart Disease	1,338	220	241	237	301	339	35.5	29.1	31.9	31.4	39.9	44.9	30.4	24.5	27.5	26.8	34.3	39.0
Malignant Neoplasms (cancer)	7,936	1,561	1,610	1,559	1,645	1,561	210.3	206.8	213.3	206.5	217.9	206.8	190.2	186.1	194.9	186.4	197.1	186.6
Trachea, Bronchus, and Lung	2,134	435	467	423	406	403	56.5	57.6	61.9	56.0	53.8	53.4	52.0	52.9	57.2	51.7	49.0	49.2
Colon, Rectum, and Anus	821	150	176	151	176	168	21.8	19.9	23.3	20.0	23.3	22.3	19.2	17.5	20.8	17.4	20.7	19.4
Female Breast	546	95	117	105	120	109	28.7	25.0	30.8	27.6	31.6	28.7	24.4	21.3	25.8	23.4	27.2	24.5
Prostate	514	103	94	102	106	109	27.4	27.5	25.1	27.2	28.3	29.1	30.1	30.0	27.2	29.7	31.4	32.0
Pancreas	461	89	90	102	95	85	12.2	11.8	11.9	13.5	12.6	11.3	11.1	10.5	11.1	12.2	11.2	10.3
Leukemia	347	66	63	71	80	67	9.2	8.7	8.3	9.4	10.6	8.9	8.2	7.7	7.4	8.2	9.6	8.0
Non-Hogkin's Lymphoma	308	63	56	67	68	54	8.2	8.3	7.4	8.9	9.0	7.2	7.2	7.4	6.6	7.9	7.8	6.5
Ovary	224	49	42	34	46	53	11.8	12.9	11.0	8.9	12.1	13.9	9.7	10.4	9.3	7.5	10.0	11.2
Meninges, Brain, and Other Parts of Central Nervous System	217	36	34	50	53	44	5.7	4.8	4.5	6.6	7.0	5.8	5.5	4.5	4.3	6.3	6.8	5.4
Kidney and Renal Pelvis	208	46	43	45	39	35	5.5	6.1	5.7	6.0	5.2	4.6	5.1	5.7	5.3	5.3	4.8	4.3
Bladder	200	40	46	35	40	39	5.3	5.3	6.1	4.6	5.3	5.2	4.6	4.5	5.2	4.1	4.6	4.4
Esophagus	195	44	39	40	41	31	5.2	5.8	3.7	6.0	5.7	5.6	4.8	5.3	4.9	4.9	5.1	3.9

Table 60 (Continued)
South Dakota Resident Deaths, Crude, and Age-Adjusted Death Rates for 15 Leading Causes and Selected Components, 2002-2006

Cause of Death	Number						Crude Death Rates						Age-Adjusted Death Rates					
	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002
Multiple Myeloma and Immunoproliferative	194	36	28	45	43	42	5.1	4.8	3.7	6.0	5.7	5.6	4.6	4.3	3.2	5.2	5.2	5.0
Liver and Intrahepatic Bile Ducts	169	32	43	35	29	30	4.5	4.2	5.7	4.6	3.8	4.0	4.1	3.9	5.3	4.2	3.6	3.6
Stomach	144	37	35	17	22	33	3.8	4.9	4.6	2.3	2.9	4.4	3.5	4.4	4.3	2.0	2.7	4.0
Melanoma of Skin	104	23	16	16	33	16	2.8	3.0	2.1	2.1	4.4	2.1	2.6	2.9	2.2	1.9	4.1	2.0
Lip, Oral Cavity, and Pharynx	98	20	21	12	20	25	2.6	2.6	2.8	1.6	2.6	3.3	2.4	2.3	2.7	1.4	2.5	3.0
Corpus Uteri and Uterus, Part Unspecified	96	19	18	19	22	18	5.0	5.0	4.7	5.0	5.8	4.7	4.0	4.0	3.9	4.2	4.5	3.5
Larynx	34	3	4	5	12	10	0.9	0.4	0.5	0.7	1.6	1.3	0.9	0.4	0.5	0.7	1.5	1.3
Cervix Uteri	34	1	7	7	9	10	1.8	0.3	1.8	1.8	2.4	2.6	1.8	0.3	1.9	1.9	2.2	2.5
Hodgkin's Disease	21	2	3	4	8	4	0.6	0.3	0.4	0.5	1.1	0.5	0.6	0.3	0.4	0.5	1.1	0.5
Ill-Defined, Secondary, and Unspecified Sites	410	86	74	87	76	87	10.9	11.4	9.8	11.5	10.1	11.5	9.7	10.2	8.8	10.5	8.9	10.2
All Other Cancers	457	86	94	87	101	89	12.1	11.4	12.5	11.5	13.4	11.8	10.9	9.9	11.4	10.3	12.3	10.5
Cerebrovascular Diseases	2,404	437	511	463	475	518	63.7	57.9	67.7	61.3	62.9	68.6	52.2	47.0	56.0	50.1	51.9	55.8
Accidents	1,980	443	396	407	390	344	52.5	58.7	52.5	53.8	51.7	45.6	49.9	55.4	49.5	51.3	49.8	43.5
Motor Vehicle Accidents	952	186	181	185	215	185	25.2	24.6	24.0	24.5	28.5	24.5	25.1	24.6	23.4	24.4	28.5	24.1
All Other Accidents	1,028	257	215	222	175	159	27.2	34.0	28.5	29.4	23.2	21.1	24.8	30.8	25.7	26.9	21.3	19.3
Chronic Lower Respiratory Diseases	1,969	375	440	393	379	382	52.2	49.7	58.3	52.1	50.2	50.6	45.1	42.8	50.4	44.6	43.8	43.7
Alzheimer's Disease	1,218	330	289	255	175	169	32.3	43.7	38.3	33.8	23.2	22.4	25.1	33.7	29.9	26.2	18.1	17.5
Diabetes Mellitus	1,121	261	239	227	201	193	29.7	34.6	31.7	30.1	26.6	25.6	26.0	29.8	27.7	26.2	23.6	23.0
Influenza and Pneumonia	1,057	173	242	180	223	239	28.0	22.9	32.1	23.8	29.5	31.7	22.5	18.3	25.8	19.2	23.7	25.8
Intentional Self-Harm (suicide)	559	125	123	114	103	94	14.8	16.6	16.3	15.1	13.6	12.5	14.9	16.7	16.2	15.3	13.8	12.4
Unspecified Dementia	472	74	30	85	152	131	12.5	9.8	4.0	11.3	20.1	17.4	9.6	7.5	3.0	8.6	15.4	13.3
Nephritis, Nephrotic Syndrome, and Nephrosis	466	60	54	93	131	128	12.3	7.9	7.2	12.3	17.4	17.0	10.3	6.8	6.0	10.4	14.3	14.0
Chronic Liver Disease and Cirrhosis	421	83	83	97	81	77	11.2	11.0	11.0	12.9	10.7	10.2	11.2	11.1	11.0	12.8	10.8	10.3

Table 60 (Continued)
South Dakota Resident Deaths, Crude, and Age-Adjusted Death Rates for 15 Leading Causes and Selected Components, 2002-2006

Cause of Death	Number						Crude Death Rates						Age-Adjusted Death Rates					
	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002	Total	2006	2005	2004	2003	2002
Parkinson's Disease	316	75	60	65	56	60	8.4	9.9	7.9	8.6	7.4	7.9	6.9	8.1	6.6	7.0	6.2	6.5
Septicemia	296	65	*	*	69	68	7.8	8.6	*	*	9.1	9.0	6.9	7.7	*	*	7.9	7.8
Essential (primary) Hypertension and Hypertensive Renal Disease	283	79	83	55	*	*	7.5	10.5	11.0	7.3	*	*	5.9	8.2	8.7	5.9	*	*
Aortic Aneurysm and Dissection	*	*	*	57	54	62	*	*	*	7.6	7.2	8.2	*	*	*	6.5	6.1	7.1
Neoplasms of Uncertain or Unknown Behavior	*	*	59	*	*	*	*	*	7.8	*	*	*	*	*	6.6	*	*	*
Metabolic Disorders	*	*	58	*	*	*	*	*	7.7	*	*	*	*	*	6.3	*	*	*

Note: *This cause was not one of the fifteen leading causes or death for that year.

Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records.